



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,424	07/27/2000	Mamoru Uchida	1403-0203P	2636

7590 11/20/2003  
Birch Stewart Kolasch & Birch LLP  
P O Box 747  
Falls Church, VA 22040-0747

EXAMINER

MAKI, STEVEN D

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/627,424

Applicant(s)

UCHIDA ET AL.

Examiner

Steven D. Maki

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 1733

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7-28-03 has been entered.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 1 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear if the fibers are located in the tread, there is no antecedent basis for "the tread rubber", and it is unclear if the tread has the specified modulus E1 and E2. In claim 1, it is suggested to make the following changes: (1) after diene rubber on line 4, insert --of a tread--, (2) on line 7 change "a tread" to --the tread-- (3) on line 7, insert --of the tread-- after "E1" and (4) on line 8 after "E2" insert --of the tread--.

In claim 1 line 8, "module" should be changed to --modulus--.

As to claim 5, the relationship between the tread of claim 1 and the tread of claim 5 is unclear (are two treads being claimed?). In claim 5 line 2, it is suggested to change "the tire has a tread that" to --said tread--.

Art Unit: 1733

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5) **Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '204 (JP 62-191204) in view of Japan '209 (JP 7-61209) and Japan '214 (JP 10-129214) and optionally Uchida et al (US 6374885 or EP 1006007) or German '792 (DE 3122792).**

Japan '204 discloses a **tire for use on snow and ice** having a ground contacting tread including **rubber** and **radially oriented non-metallic short fibers**. Japan '204 teaches that the tire has good skidproofing effects. Japan '204 does not specifically recite the hardness of the ground contacting tread. However, it would have been obvious to one of ordinary skill in the art to provide the rubber of Japan '204's tread with the claimed hardness of 45-75 degrees (a relatively low hardness) since Japan '209, also directed to a tire for use on snow and ice, suggests using a rubber having a hardness of 50-60 (a relatively low hardness) to avoid excessive wear and improve grip on snow and ice (paragraph 16 off machine translation). Japan '209 therefore strongly motivates one of ordinary skill in the art to use the claimed hardness in Japan '204's tread so as to improve grip on snow and ice of Japan '204's tire. Improvement in grip on snow and ice is desirable for Japan '204's tire since Japan '204's tire is for use on snow and ice.

Art Unit: 1733

As to the type of short fibers, it would have been obvious to use glass or carbon fibers having a length of 0.1-5 mm and an average diameter of 1-100  $\mu\text{m}$  in Japan '204's tread in view of (a) Japan '204's suggestion to use radially oriented glass or carbon fibers having a length such as 1 mm (page 21 bottom right) and (b) Japan '214's teaching to use short fibers having a length of 0.2-1.0 mm (290-1000 $\mu\text{m}$ ) and a L/D of 200-2000 (column 3 paragraph 19) so that the short fibers can be fully radially oriented. As to the fibers being glass fibers or carbon fibers, one of ordinary skill in the art would readily appreciate that glass fibers or carbon fibers would improve braking performance. See Japan '204 (abstract) and optionally Uchida et al (col. 4) or German '792 (abstract). US 6374885 is available as prior art under 35 USC 102(e). Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15. EP 1006007 is available as prior art under 35 USC 102(a). As to German '792, the following information was obtained during a partial oral translation of page 9 of German '792: The tread has a plurality of carbon fibers, which extend perpendicular of the tread and are embedded therein. The individual fibers can be woven into a fabric like mat and can be fastened therein or may form parts thereof with the mat being inserted or placed in the rubber mixture for the tread.

As to the amount of short fiber used and E1 / E2 (this ratio being descriptive of a small amount of fibers being radially oriented), it would have been obvious to use 3-20 parts short fiber in Japan '204's tread such that the tread defines the claimed ratio E1/E2 of 1.1 to 4 since (a) Japan '204, directed to a tire for use on snow and ice and

Art Unit: 1733

having **radially oriented short fibers**, teaches using 5-60 parts short fiber in the tread, (b) Japan '209, directed to a tire for use on snow and ice, suggests limiting the amount of **short fibers** in a ground contacting portion of a tread to 2-10 parts to avoid inferior abrasion resistance and (c) Japan '214 teaches that when using **radially oriented short fibers**, care should be taken to use less than 30 parts short fibers because if more than 30 parts short fibers is used, the hardness of the tread will be high and the grip nature will fall. (paragraph 20 of machine translation).

No unexpected results over the above applied prior art has been shown. The result of improved braking performance when using radially oriented fibers in the 132 declaration filed 5-28-03 and the original specification is the expected result. See Japan '204's teaching to use radially oriented short fibers to obtain good skid proofing. The result of improved abrasion resistance when using less short fibers is the expected result. See Japan '209's teaching to use 2-10 parts short fibers to avoid inferior abrasion resistance.

6) **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '204 (JP 62-191204) in view of Japan '209 (JP 7-61209) and Japan '214 (JP 10-129214) and optionally Uchida et al (US 6374885 or EP 1006007) or German '792 (DE 3122792) as applied above and further in view of Japan '603 (JP 3-258603).**

As to claim 5, the limitation therein would have been obvious in view of Japan '603's teaching to fold a rubber sheet having fibers therein so as to obtain a radial orientation of the fibers for a tire tread; it again being noted that Japan '204 desires

Art Unit: 1733

radially oriented short fibers for a tire tread. Claim 5 is written in product by process form. The description relating to calendaring fails to define a materially different product than that suggested by the applied prior art. See MPEP 2113. The folding language requires structure and that structure is suggested by Japan '603.

#### Remarks

7) Applicant's arguments with respect to claims 1 and 5 are have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 7-28-03 and 10-28-03 have been fully considered but they are not persuasive.

With respect to applicant's comments regarding the 132 declaration filed 5-28-03, the examiner directs applicant's attention to the comments made in the advisory action dated 6-12-03 and makes the following additional comments: As to applicant's results not being commensurate in scope with claim 1, applicant has provided no evidence and/or convincing reasoning that applicant's results would be obtained if the tread is not made by rolling a specified rubber composition by a calender roll and repeating folding it. In Experiment 2 in the 132 declaration filed 5-28-03, the length of the fibers is 3.0 mm instead of 0.3 mm as asserted by applicant on pages 9-10 of the response filed 10-28-03).

8) No claim is allowed.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-

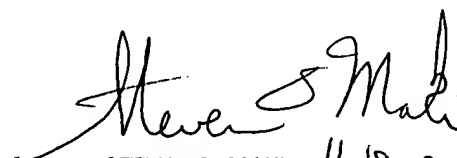
Art Unit: 1733

2068 until Dec. 18, 2003 and (571) 272-1221 after Dec. 18, 2003. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki  
November 18, 2003

  
STEVEN D. MAKI 11-18-03  
PRIMARY EXAMINER  
~~GROUP 1300~~  
AU 1733